Draft Deschutes Freshwater WQIR/IP
SIT Review Comments

Comment Number	Page, Paragraph, & Line Number	Comments, questions, suggestions	
1		Our first overall comment is, well done in that **t**he document does a good job of bringing together all of the data and analysis collected over the years.	
2		Our second overall comment is that it is clear that the implementation plan cannot and will not meet several of the required water quality parameters even if fully implemented. This is shown by Ecology's own modeling as evidenced by Figures 10 and 11. **T**he TMDL, however, must result in water quality standards being met. Further, if flow reduction by permit-exempt wells is not stopped or mitigated, then the temperature standard: (1) will not be met by 2065; and (2) will continue to be unmet by larger amounts as new permit-exempt wells are drilled (which violates anti-degradation requirements). Further, where the implementation plan relies on voluntary actions on private property for parameters such as temperature the plan as outlined is so ambitious that it is likely to be unsuccessful.	
3		As a third overall comment we suggest that Ecology include the general recommendations found on pages 114 and 115 that are not already included in load allocation reduction targets. Specifically, increased flows should be included as a prescription for decreasing temperatures. Large woody debris should be used for allocations designed to reduce temperatures and decrease fine sediment.	
4	40-41	Comment- Figures 10 and 11. These figures are important in that they succinctly show that all restoration options, including increasing flows, must be considered to achieve temperature goals.	
5	10, 40-42, 60 and 115	Comment- The temperature reductions are almost entirely predicated upon increases in riparian shade. As shown by the modeling, shade clearly has the biggest impact on temperature; however, several other attributes will ultimately be needed to achieve targets. Figures 10 and 11 suggest that "channel improvements" can decrease water temperature by 1.3 degrees. Calculating and displaying channel improvements in an "allocations" like format, for example as found in Figure 20, would be very helpful for implementation. The Deschutes River is listed for impairment due to lack of large woody debris (page 10). Like shade, large woody debris is not a pollutant regulated by the TMDL, but it is a means to addressing the regulated pollutants. Channel improvements as modeled by Ecology in the 2012 technical report include increased channel roughness and greater interaction with the hyporheic zone, both of which would result from the presence of large woody debris in the channel. Rather than relegating large woody debris to a general implementation action (page 115), more specific actions should be prescribed. Any current assessments of large woody debris deficit should be listed by reach or kilometer, with targets for increases, just as they are with shade.	

6	10, 42, and 114-115	Modeling scenario 5 was used to estimate system potential for temperature (page 42). It includes historical 7Q10 low flow discharge values from the period of 1949-1969. Increased river flow causes a decrease in temperature, though small compared to other changes. Because full riparian shade is unlikely, and because the river will still not meet the temperature standard, increasing river flow should be part of the solution. Decreased flows are a source of the problem. Furthermore, the Deschutes River is listed for impairment due to decreased instream flows, regardless of temperature (page 10). To that end, Ecology has included general recommendations for increasing flow in the river (pages 114-115). But these recommendations are just a side note, lacking any details, and so easily overlooked. Through the TMDL process, the flow deficit has been apparent in modeling of temperature, dissolved oxygen, and pH. To meet the Clean Water Act's requirements, a more detailed plan for restoring instream flows to the Deschutes should be included in the water quality improvement report: • Flow deficit at USGS gaging stations should be quantified for every month of the year. • All water systems and exempt wells should be inventoried and mapped (including those not on record with Ecology, because they do exist), and their total water use quantified. • A detailed groundwater model of the Deschutes basin should be created and calibrated. • Using the model, the effect of increasing exempt wells should be quantified as a whole and by river reach. • Using the model, the effect of solutions such as water conservation, reinfiltration, low impact development, and alternate water sources should be quantified and illustrated spatially in the county, so that local entities have a road map for returning flows to the Deschutes. • Existing and future limits on any water withdrawals should be enforced. • A timeline should be placed on the above actions.	
7	74	Comment- Fine Sediment- This implementation plan does a good job of laying out areas of load allocation by reach and land use type. This should be useful in prioritizing work in the system. Ecologies reliance on existing BMP's is, in our opinion, unlikely to achieve goals. Adding channel complexity, for example large wood, has been shown as an effective way to trap sediment and keep it away from spawning areas. We believe it would be helpful to implementers to show a reach by reach or kilometer by kilometer index for necessary stream stream channel improvements.	
8	83	Comment and question- The document states that the cities and County must implement low impact development practices (LID). Even if correctly implemented using LID does not fully remove impacts. With full implementation and full build out how much function is estimated to be lost for TMDL parameters? These should be quantified.	
9	89	Comment- In our opinion the riparian goals are extremely ambitious and unlikely to be met. Dedicated funding has not been identified, political will for enforcement has not been demonstrated and past and ongoing efforts have been very limited. We do not agree that it is reasonable to assume that voluntary actions will lead to essentially the whole rive system being planted with a functioning riparian zone in any reasonable time frame.	

10	133	Question- Table 45. Where does the 2050 date for good habitat conditions come from? While existing sediment in the system will take time to work its way through downstream, project designed to stop or remediate sediment sources will have an almost immediate effect.	
11	135	Comment- The Tribe does not believe an adaptive management process is needed to implement the TMDL. Ecology has the information it needs and has identified the prescriptions needed to achieve water quality standards. A workable plan needs to be implemented and it will become readily apparent if the interim goals are not being met. Ecology has the existing capacity to adaptively manage the project from the first day of implementation. *If a committee or group is required, waiting until 2020 to begin for a plan that is supposed to be effective by 2025 is far too late to be effective. We recommend starting the process in 2016.* As stated earlier, the riparian goals are ambitious and it would become apparent very soon that interim goals will or will not be met.	
12	42	Scenario 4 on page 42 is the temperature modeling scenario used for the water quality improvement report. It assumes that headwaters of and tributaries to the Deschutes are at water quality standards. Is that safe to assume that those tributaries will meet that condition in the near future? For the headwaters, this has to do with whether Washington Forest Practices laws are sufficient.	
13	115	Regarding the prescribed riparian buffer widths of 75ft and 35ft. We understand that you have set a buffer width that seems "technically defensible and reasonably feasible". That wording makes the 75 ft. for the mainstem Deschutes River seem like a compromise. It seems inadequate if the buffer distance is measured from the edge of the active channel rather than the edge of the channel migration zone. Given the active bank erosion in the Deschutes, a riparian replanting project 75 feet from the active channel could be eroded and eventually become the active channel. Ecology appears to be focusing on shade when prescribing a 75 foot buffer in the TMDL, in the long term this 75 ft. may be inadequate to provide healthy riparian function for the Deschutes, due to the need for large woody debris structural input (which also affects temperature by changing channel roughness and depth of the hyporheic zone). We recommend using the riparian buffer widths as called out in the NMFS 2008 Biological Opinion (BiOp) for FEMA's National Flood Insurance Program for Puget Sound. This includes the latest and best available science on this topic and is designed to ensure healthy watersheds.	
14	114-116	The “general land use” BMPs violate the Clean Water Act because they are wholly ineffective. Ecology: (a) assigns no implementing entity; (b) exempts itself and Thurston County from the responsibility of implementing them; and (c) illogically states that in order to meet TMDL requirements, these BMP / actions must be completed by 2025 (by whom?) and that ongoing actions must be in place and continue past 2025. Ecology should move some if not all of the BMPs in Table 23 to Ecology’s and Thurston County’s assigned tasks in Tables 38 and 33, respectively, with directive language and corresponding completion dates.	
15	128	The Implementation Plan assigns Ecology the task of protecting cool water sources identified in the TIR imagery from flow depletion or temperature increases, but provides no deadline for doing so.	
16	122-123	Thurston County’s assigned tasks are non-directive, wholly discretionary and fail to meet its GMA water availability requirements and 1971 Water Resources Act requirements, as well as Ecology’s water-related statutory duties (e.g., administer consistent with the priority system, protect instream flows, etc.).	

17		The Clean Water Act does not allow Ecology to draw a bright line between its water quality and quantity programs. Rather, the Act requires "comprehensive solutions" to prevent, reduce and eliminate pollution in concert with programs for managing water; and (2) establishes the supreme goal of restoring and maintaining the chemical, physical, and biological integrity of the Nation's waters. Drawing a bright line is a prohibited "artificial distinction." *PUD No. 1 v. Ecology* , 511 U.S. 700, 719 (1994).	